

WHAT IS CLAIMED IS:

1. A printing apparatus which prints using a printhead, wherein a printing controller for feedback-controlling driving of the printing apparatus  
5 comprises:

control information generation means for generating control information for controlling driving of a motor on the basis of a first driving pattern;

- comparison means for comparing the control  
10 information and a threshold for determining an overload on driving of the motor; and

setting means for setting a second driving pattern, instead of the first driving pattern on the basis of a comparison result of said comparison means.

- 15 2. The apparatus according to claim 1, wherein said control information generation means updates the control information in order to compensate for a deviation between the first driving pattern, and feedback information for driving of the motor that is  
20 detected by detection means.

3. The apparatus according to claim 1, wherein the control information includes a voltage value PWM-controlled to drive the motor.

4. The apparatus according to claim 1, wherein said  
25 setting means sets the second driving pattern to the first driving pattern again at a timing when the overload on the motor is canceled or predicted to be

canceled.

5. The apparatus according to claim 1, wherein  
the printing apparatus further comprises storage  
means for storing the first and second driving patterns  
5 as a driving pattern generated in advance, and  
said setting means can select and set a driving  
pattern stored in said storage means.

6. The apparatus according to claim 1, wherein said  
setting means sets the first driving pattern as initial  
10 information, and generates the second driving pattern  
for changing driving of the motor on the basis of the  
comparison result of said comparison means and an  
allowable torque margin.

7. The apparatus according to claim 6, wherein the  
15 allowable torque margin is given by a difference  
between a minimum motor output torque and a maximum  
load torque.

8. The apparatus according to claim 1, wherein, when  
the control information exceeds the threshold from the  
20 comparison result of said comparison means, said  
setting means sets a lower-velocity driving pattern  
than the first driving pattern as a driving pattern for  
driving the motor.

9. The apparatus according to claim 1, wherein, when  
25 the control information does not exceed the threshold  
from the comparison result of said comparison means,  
said setting means sets a higher-velocity driving

pattern than the first driving pattern as a driving pattern for driving the motor.

10. The apparatus according to claim 1, wherein, in control of first and second motors,

5 for a torque margin of the second motor  $\geq$  a torque margin of the first motor,

said comparison means compares control information for the first motor and a first threshold for determining an overload on driving of the first  
10 motor, and

said setting means sets a driving pattern for changing a load on driving of the first and second motors on the basis of a comparison result of said comparison means.

15 11. The apparatus according to claim 1, wherein, in control of first and second motors,

for a torque margin of the second motor  $<$  a torque margin of the first motor,

said comparison means sets a second threshold for  
20 determining an overload on driving of the first and second motors, and compares control information for the first motor and the second threshold, and

said setting means sets a driving pattern for changing a load on driving of the first and second  
25 motors on the basis of a comparison result of said comparison means.

12. The apparatus according to claim 11, wherein the

second threshold generated by said comparison means satisfies a relation: the first threshold > the second threshold.

13. The apparatus according to claim 10, wherein the  
5 first motor includes a DC motor which can be feedback-controlled.

14. The apparatus according to claim 1, wherein the printing apparatus further comprises printing data generation means for scanning a carriage supporting the  
10 printhead on a printing medium and converting information transmitted from an external device into printing data complying with an arrangement of the printhead.

15. The apparatus according to claim 14, wherein the  
15 printhead includes an ink-jet printhead which prints by discharging ink.

16. The apparatus according to claim 14, wherein the printhead includes a printhead which discharges ink by using heat energy, and comprises an electrothermal  
20 transducer for generating heat energy to be applied to ink.

17. A printing apparatus control method of driving, on the basis of feedback control, a printing apparatus which prints using a printhead, comprising:  
25 a control information generation step of generating control information for controlling driving of a motor on the basis of a first driving pattern;

a comparison step of comparing the control information and a threshold for determining an overload on driving of the motor; and

a setting step of setting a second driving pattern, instead of the first driving pattern on the basis of a comparison processing result of the comparison step.

18. A printing apparatus which prints using a plurality of motors, wherein a motor driving device which drives a first motor by feedback control and a second motor by open-loop control comprises:

control information generation means for generating control information for each motor on the basis of a first driving pattern corresponding to each motor in order to drive the first and second motors;

comparison means for comparing control information of the first motor and a threshold for determining an overload on driving of the first motor; and

setting means for setting second driving patterns corresponding to the first and second motors by said control information generation means instead of the first driving pattern on the basis of a comparison result of said comparison means.

19. A method of controlling a printing apparatus which prints by driving a first motor by feedback control and a second motor by open-loop control,

comprising:

a control information generation step of  
generating control information for each motor on the  
basis of a first driving pattern corresponding to each  
5 motor in order to drive the first and second motors;

a comparison step of comparing control  
information of the first motor and a threshold for  
determining an overload on driving of the first motor;  
and

10 a setting step of setting second driving patterns  
corresponding to the first and second motors instead of  
the first driving pattern on the basis of a comparison  
result of the comparison step.